

To: Rauscher, Jon[Rauscher.Jon@epa.gov]; Wall, Dan[wall.dan@epa.gov]; OBrien, Wendy[OBrien.Wendy@epa.gov]; Keteles, Kristen[Keteles.Kristen@epa.gov]; Black, Ned[Black.Ned@epa.gov]; Hiatt, Gerald[Hiatt.Gerald@epa.gov]
Cc: Allen, HarryL[Allen.HarryL@epa.gov]; Valdes, Dennisses[Valdes.Dennisses@epa.gov]; McKean, Deborah[mckean.deborah@epa.gov]
From: Greenberg, Marc
Sent: Mon 8/10/2015 3:23:04 PM
Subject: RE: EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO

EU folks,

Harry Allen in R9 brought a good question about mass balance to my attention earlier today. Metals is one thing, but also pH, alkalinity, hardness and other WQ parameters. So, it might be wise to do some mass balances to show the estimated contributions to the stream other than color that is shown by a photograph. So the question is, has anyone been looking into a mass balance to enhance our understanding and expectations on what this spill of 30 M gal might mean? It might provide a way for us to contextualize the spill (from multiple perspectives: mass loading, exposure potential, and risk). Sounded like an EU question to me.

You may have people that can do this for you as part of the response. If not, please contact myself or Dee Valdes for assistance.

Thanks,

Marc

Marc S. Greenberg, Ph.D.
Deputy Branch Chief
U.S. EPA - Environmental Response Team

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greenberg.marc@epa.gov

From: Allen, HarryL
Sent: Monday, August 10, 2015 10:22 AM
To: Greenberg, Marc; Black, Ned; Hiatt, Gerald; Guria, Peter; Stroud, Fred
Subject: Re: EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO

Great Marc. If you're on the call please do ask.

Our RA and DD have been lamenting what they see as a missed opportunity to contextualize the spill, clearly interpret results etc. asked me to look into it. Obviously I like the mass balance idea. I've seen the values table but no dQOs yet to really point to chem risk assessment. We're sampling now. Be good to refine the approach ASAP.

Sent from my iPhone

On Aug 10, 2015, at 5:06 AM, "Greenberg, Marc" <Greenberg.Marc@epa.gov> wrote:

Hi Harry,

Have you, by chance, run this question through Jerry Hyatt and the cross-regional EU that I've heard has been stood up? My understanding is that there are daily calls now and the next one is at noon EST today. I can ask about that.

From: Allen, HarryL
Sent: Monday, August 10, 2015 12:49 AM
To: Greenberg, Marc; Dad; Stroud, Fred; Compton, Harry; Johnson, Terrence
Subject: Fwd: EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO

You guys have any ideas how to do this mass balance? Estimate now 3 Mg but still. Animas running fast - up to 4mph throughout the response.

Sent from my iPhone

Begin forwarded message:

From: [REDACTED] **Personal Email/Ex. 6**
Date: August 9, 2015 at 4:40:51 PM PDT
To: [REDACTED] **Personal Email/Ex. 6**
Subject: Fwd: EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO

I did not know you were involved till now. Keep me informed. I am pretty sure the accident did not add significantly to the problem. One million gallons is not a lot of water.

H3

----- Forwarded message -----

From: [REDACTED] **Personal Email/Ex. 6**
Date: Sun, Aug 9, 2015 at 7:27 PM
Subject: Re: EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO
To: "Stroud, Fred" <Stroud.Fred@epa.gov>

Fred,

What do they know about the water quality of the mine water and the creek upstream and down? Metals is one thing, but also pH, alkalinity, hardness and that sort of WQ parameters. I think they might be wise to do some mass balances to show the real contribution to the stream other than color. We need flows (cfs) upstream downstream and the leak. The iron complex is making the color, so they will also need to speciate the oxide, hydroxide or other form of iron. That is not the toxic material. Like Clear Creek as well as in Equador on the Essiquibo River, the color is just an indicator.

Let me see the data if you can get it.

Harry

On Fri, Aug 7, 2015 at 10:26 PM, Stroud, Fred <Stroud.Fred@epa.gov> wrote:

Sent from my iPhone

Begin forwarded message:

From: "Greenberg, Marc" <Greenberg.Marc@epa.gov>
Date: August 7, 2015 at 6:48:47 PM PDT
To: "ERT (EPA Staff Only)" <ERT_EPA_Staff@epa.gov>
Subject: Fwd: EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO

FYI

Marc S. Greenberg, Ph.D.

Deputy Branch Chief

U.S. EPA

Environmental Response Team

[609-865-3924](tel:609-865-3924) cell

Message sent via EPA wireless device

Begin forwarded message:

From: "Eoc, Epahq" <Eoc.Epahq@epa.gov>
Date: August 7, 2015 at 1:52:41 PM EDT
Subject: EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO

This report is being sent as a bcc to prevent accidental Reply to All messages.

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<image001.png>

EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO

US Environmental Protection Agency

Report as of 1300 EDT on 08/07/2015

Overview: On August 5th, an EPA and Colorado State Division of Reclamation Mining and Safety team was working to investigate and address contamination at the abandoned Gold King Mine in San Juan County, CO. This work unexpectedly triggered a large release of mine wastewater into the upper portions of Cement Creek. Initial estimates indicate that the release is approximately one million gallons that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach and all were unharmed.

The acidic mine water associated with this release contains high levels of sediment and metals. EPA teams are conducting sampling and visual observations today and will be monitoring river conditions over the next several days. EPA recommends that recreational users of the Animas River avoid contact with or use of the river until the pulse of mine water passes.

Water continues to be released from the mine at a slower rate. EPA has met with San Juan County, CO and will be meeting with La Plata County, CO later today. Water sampling was conducted and analysis is pending, and pH levels and other water quality parameters are being monitored.

State, Local and other Federal Agency Actions: San Juan County officials are engaged in the response to the release. State officials are also on scene. Following the release, the Colorado Department of Public Health and the Environment (CDPHE) notified water users downstream so they could take appropriate steps to turn off intakes until the contaminated water passes.

EPA Actions: A R8 OSC met with San Juan County leaders to discuss the release into the Animas River. R8 requested support from EPA's Airborne Spectral Photometric Environmental Collection Technology (ASPECT) aircraft and the plane is in route to collect photographic information to response officials.

A R8 OCS has been deployed to the area. R8 staff are coordinating with relevant county and city officials. Over the next several days, EPA teams will be sampling and investigating downstream locations to confirm that the release has passed and poses no additional concerns for aquatic life or water users.

R8 staff will meet with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply. R8 is also coordinating with Region 6 on the incident. EPA will also be assessing damage near the mine portal and any residual releases of water at the mine site.

Media Interest: Medium

<http://www.foxnews.com/us/2015/08/07/sludge-from-colorado-mine-spill-flows-down-river-toward-new-mexico/>

<http://time.com/3987958/mine-spiller-yellow-river-colorado/>

**The HQ EOC will continue to monitor and provided updates
as needed.**

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Patrick Easter, Robert Miller Watch Officers

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